

# ABSTRACT OF THE DISCLOSURE

A method and device for implementing the method for anisotropically plasma etching a substrate (e.g., silicon body). The device has a chamber and plasma source for generating a high-frequency electromagnetic alternating field and a reaction region for generating a plasma having reactive species, within the chamber, that is generated by the action of the alternating field on etching gas and passivation gas introduced at the same time but spatially separated from it.

An arrangement defines at least one first zone acted on by the etching gas and at least one second zone acted on by the passivation gas in the reaction region. The device has a mixing region downstream of the reaction region in which the reactive species generated from the etching gas in the first zone and the reactive species generated from the passivation gas in the second zone are blended before they act on the substrate.

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